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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,995	02/12/2004	David Malcolm Camm	SMARB11.001AUS	3328

20995	7590	05/21/2007
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EXAMINER	
WON, BUMSUK	

ART UNIT	PAPER NUMBER
2879	

NOTIFICATION DATE	DELIVERY MODE
05/21/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/777,995

Applicant(s)

CAMM ET AL.

Examiner

Bumsuk Won

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 55-75, 115 and 116 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 55-75, 115 and 116 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on 2/23/2007 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 55-75, 115 and 116 have been considered but are moot in view of the new ground(s) of rejection.

Election/Restrictions

In the remarks, page 20, the Applicant requests rejoining claims 76-114 and 117-131. The Applicant argues that the claims 76-114 and 117-119 are directly or indirectly dependent on the claim 55, and the claims 120-131 are directly or indirectly dependent on the claim 116. The Examiner respectfully agree that the claims 76-114 and 117-119 are directly or indirectly dependent on the elected claims 55 and 116. However, claims 55 and 116 are generic claims and they are not allowed. Also claims 76-114 and 117-119 are drawn to different species as discussed in the previous office actions that were sent on 7/28/2006 and 11/17/2006. Therefore, the Examiner respectfully maintains the restriction requirement.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 55-63, 66, 69, 70, 75, 115, and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nodwell (4,027,185) in view of Uemura (2002/0024290).

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Regarding claim 55, Nodwell discloses an apparatus (figs 1, 2, 7) for producing electromagnetic radiation, the apparatus comprising:

a flow generator (27) configured to generate a flow of liquid along an inside surface of an envelope (42); and

first and second electrodes (26, 36) configured to generate an electrical arc within the envelope to produce the electromagnetic radiation (col 2, lines 45-65).

Nodwell does not specifically disclose the flow generator is electrically insulated.

Uemura discloses an apparatus (figure 1) in an analogous art having cathode (4), anode (6), and a flow generator (8) which is electrically insulated (paragraph 40), for the purpose of enhancing reliability of the apparatus.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have flow generator being electrically insulated as disclosed by Uemura in the apparatus disclosed by Nodwell, for the purpose of enhancing reliability of the apparatus.

Regarding claim 56, Nodwell discloses electrical insulation surrounding said flow generator (col 5, lines 4-27).

Regarding claim 57, Nodwell discloses the flow generator comprises a conductor (col 4, lines 16-64).

Regarding claim 58, Nodwell discloses the first electrode (26) comprises a cathode (26) and wherein the electrical insulation (col 5, lines 4-27) surrounds the cathode and an electrical connection thereto (25).

Regarding claim 59, Nodwell discloses the electrical connection (25) comprises flow generator (27).

Regarding claim 60, Nodwell discloses the electrical insulation (col 5, lines 4-27) surrounding the flow generator comprises the envelope (42).

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Regarding claim 61, Nodwell discloses the electrical insulation surrounding the flow generator comprises an insulative housing (col 4, lines 5-15).

Regarding claim 62, Nodwell discloses the insulative housing (22) surrounds at least a portion of the envelope (42).

Regarding claim 63, Nodwell discloses the electrical insulation comprises gas () in a space between the insulative housing and the portion of the envelope (col 2, lines 45-65).

Regarding claim 66, Nodwell discloses the envelope is transparent cylindrical tube (col 4, lines 5-15, 52-64).

Regarding claims 69 and 70, Nodwell discloses the tube is a hollow cylinder (col 4, lines 50-55). The examiner notes that a precision bore cylindrical tube having a specific dimensional tolerance of 5×10^{-2} or lower does not have unobvious difference with the hollow cylinder (42, col 4, lines 50-55), therefore, the claimed limitation is not afforded patentable weight.

Regarding claim 75, Nodwell discloses the insulative housing comprises ceramic (col 4, lines 5-15).

Regarding claim 115, Nodwell discloses an apparatus (figs 1, 2, 7) for producing electromagnetic radiation, the apparatus comprising:

means (27) for generating a flow of liquid along an inside surface of an envelope (42); and

means (26, 36) for generating an electrical arc within the envelope to produce the electromagnetic radiation (col 2, lines 45-65).

Nodwell does not specifically disclose the means for generating flow of liquid is electrically insulated.

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Uemura discloses an apparatus (figure 1) in an analogous art having cathode (4), anode (6), and a flow generator (8) which is electrically insulated (paragraph 40), for the purpose of enhancing reliability of the apparatus.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have flow generator being electrically insulated as disclosed by Uemura in the apparatus disclosed by Nodwell, for the purpose of enhancing reliability of the apparatus.

Regarding claim 116, Nodwell discloses a method of producing electromagnetic radiation, the method comprising:

generating a flow of liquid along an inside surface of an envelope (42) using an electrically insulated flow generator (27, col 5, 4-27); and

generating an electrical arc between first and second electrodes (26, 36) to produce the irradiance flash (col 2, lines 45-65).

Nodwell does not specifically disclose the flow generator is electrically insulated.

Uemura discloses an a method (figure 1) in an analogous art having cathode (4), anode (6), and a flow generator (8) which is electrically insulated (paragraph 40), for the purpose of enhancing reliability of the apparatus.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have flow generator being electrically insulated as disclosed by Uemura in the method disclosed by Nodwell, for the purpose of enhancing reliability of the apparatus.

Claims 64, 65, 71, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nodwell in view of Uemura, in further view of Parfeniuk (6,621,199).

Regarding claim 64, Nodwell in view of Uemura discloses all the claimed limitation except for having a pair of spaced apart seals cooperating with an inner surface of the

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insulative housing and an outer surface of the portion of the envelope to seal the gas in the space.

Parfeniuk discloses an apparatus for producing electromagnetic radiation comprising a pair of seals (fig 1, 106, 87, 114) between housing (110) and envelope (13), for the purpose of sealing the gap between the housing and the envelope.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a pair of seals between housing and envelope disclosed by Parfeniuk in the apparatus disclosed by Nodwell in view of Uemura, for the purpose of sealing the gap between the housing and the envelope.

Regarding claim 65, Nodwell discloses the gas is compressed (col 2, lines 45-64).

Regarding claim 71, Parfeniuk discloses the tube comprises quartz (col 4, lines 42-58). The reason for combining is as same as claim 64.

Regarding claim 72, Parfeniuk discloses the tube comprises pure quartz (col 4, lines 42-58). The reason for combining is as same as claim 64.

Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nodwell in view of Uemura, in further view of Schenck (5,753,106).

Regarding claims 67 and 68, Nodwell in view of Uemura discloses all the claimed limitation except for the thickness of the tube.

Schenck discloses an apparatus (fig 1) for radiation having a cylindrical tube (2) made of quartz having a wall thickness of 5 to 100 mm (col 13, lines 37-64), for the purpose of preventing from overheating (col 13, lines 37-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a thickness of a tube being 5 to 100 mm disclosed by Schenck in the apparatus disclosed by Nodwell in view of Uemura, for the purpose of preventing from overheating.

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Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nodwell in view of Uemura, in further view of Parfeniuk, in further view of Ashely (5,137,659).

Regarding claim 73, Nodwell in view of Uemura and Parfeniuk discloses all the claim limitation except for the tube is cerium doped.

Ashely discloses an apparatus in an analogous art using cerium in an housing for radiation emitting device (col 8, lines 16-21), for the purpose of enhancing transparency (col 8, lines 16-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have cerium disclosed by Ashely in the apparatus disclosed by Nodwell in view of Uemura and Parfeniuk, for the purpose of enhancing transparency.

Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nodwell in view of Uemura, in further view of Parfeniuk, in further view of Kimble (6,465,799).

Regarding claim 74, Nodwell in view of Uemura and Parfeniuk discloses all the claim limitation except for the tube is sapphire.

Kimble discloses an apparatus in an analogous art using sapphire in an housing for radiation emitting device (col 6, lines 11-46), for the purpose of enhancing transparency.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have sapphire disclosed by Kimble in the apparatus disclosed by Nodwell in view of Uemura and Parfeniuk, for the purpose of enhancing transparency.

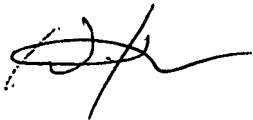
Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Bumsuk Won
Patent Examiner



V. P. PATEL
PRIMARY EXAMINER